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09/601,233	07/31/2000	ANDREW AUGUSTINE WAJS	82032-00002	8738

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EXAMINER

ZAND, KAMBIZ

ART UNIT PAPER NUMBER

2132

DATE MAILED: 06/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/601,233

**Applicant(s)**

WAJS ET AL.

**Examiner**

Kambiz Zand

**Art Unit**

2132

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-6, 12-17, 19-25, 28, 32 and 33 is/are rejected.  
7) ☒ Claim(s) 7-11, 18, 26, 27 and 29-31 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 31 July 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. The text of those sections of Title 35, U.S. Code not included in this section can be found in the prior office action.
2. The prior office actions are incorporated herein by reference. In particular, the observations with respect to claim language, and response to previously presented arguments.
3. Claims 1-3 and 5-31 have been amended.
4. New claims 32 and 33 have been added.
5. Claims 1-33 are pending.
6. Examiner withdraws objection of claims 1-31 due to correction by the applicant.
7. Examiner withdraws rejection of claims 15-16 and 31 under 35 U.S.C. 112-second paragraphs due to correction by the applicant.

### ***Response to Arguments***

8. Applicant's arguments filed 05/17/01 have been fully considered but they are not persuasive.
- In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "entropy information is used as input to the scrambling process") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.

See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Therefore Applicant's arguments of the dependency of the entropy distribution with respect to claims 1, 12 and 14 is not persuasive, specially in the light of the broad language of the above claims. Examiner considers any type of the relationship of the scrambling signal and the distribution of the signal as a dependency factor. Examiner however would reconsider if such above specific differences over the prior art of the records be present in the claim language in a manner that does not raise new issues that necessitate new search and consideration.

- As per Applicant's arguments with respect to claim 14 that the Lie Tang fails to disclose "means for combining the descrambling and scrambled information signals to obtain the information signal", Examiner refers Applicant to the following remarks:

See page 220, section 3 where "related works" disclose that some of the information in the signal not needed to scramble and that is the idea of selective scramble or encryption and therefore the descrambling of the scramble signal yields to a part of signal initially scrambled and combination of the descramble part with the original signal yields to information signal). That is the combination of descrambled information and scrambled information.

### ***Claim Objections***

9. **Claims 15 and 16** are objected to because of the following informalities: Typo error: repeated phrase “for regenerating” in line 2 of the claims. Examiner suggests the removal of the above repeated phrase. Appropriate correction is requested.

***Claim Rejections - 35 USC § 102***

1. **Claim 1-2, 12, 14, 20, 21, 28 and 32-33** are rejected under 35 U.S.C. 102(b) as being anticipated by Lei Tang (Method for Encrypting and Decrypting MPEG Video Data Efficiently) recited in the IDS, paper number 4 by Applicant.

**As per claims 1, 12 and 32-33** Lei Tang (Method for Encrypting and Decrypting MPEG Video Data Efficiently) teach a system for processing an information signal (see page 219, introduction, first paragraph where a system process information signals such as video-on-demand, digital video, interactive video game and **where multimedia applications operates on audio and video as recited in claims 32 and 33**, etc.), comprising a system for scrambling the information signal (see page 223, paragraph 2 of section 4.1 MPEG and JPEG image security, “the encrypted (or scrambled) image has...obscured image”) and at least one system for descrambling the scrambled information signal (see abstract; section 4.1 and 4.2 on page 223 that is self explanatory with respect to a system that decrypt (descramble, the scramble signal)), said scrambling system comprising:

Art Unit: 2132

means for analyzing the entropy distribution of the information signal (see page 222, right column, first paragraph where the MPEG-1 uses to compress video data is entropy coding of distribution of signal by using Huffman coding), means for scrambling the information signal in dependence on the entropy distribution of the information signal to provide a scrambled information signal having an entropy distribution corresponding with the entropy distribution of the information signal and means for compressing the scrambled information signal (see section 4, 4.1-4.4 on pages 223-225 where by incorporating of compression and encryption using MPEG and JPEG image security the information are encrypted/scrambled and compressed based on MPEG-1 as an option as described on page 222 using Huffman coding), said descrambling system comprising means for decompressing the compressed scrambled information signal (see page 223, section 4.2 where the system goal is “..to achieve compression (decompression) and encryption (decryption) in one step”), and means for descrambling the scrambled information signal to provide the information signal (see page 223, section 4.2). Also see pages 219-229 for more detail.

**As per claims 2 and 14** Lei Tang (Method for Encrypting and Decrypting MPEG Video Data Efficiently) teach a system for descrambling a scrambled information signal (see abstract; section 4.1 and 4.2 on page 223 that is self explanatory with respect to a system that decrypt (descramble, the scramble signal)), comprising means for descrambling the scrambled information signal to provide the information signal (see page 222, section 4.2; and see page 223, section 4.2 where the system goal is “..to achieve

Art Unit: 2132

compression (decompression) and encryption (decryption) in one step”), wherein said descrambling means comprises means for regenerating the scrambling signal as a descrambling signal and means for combining the descrambling and scrambled information signals to obtain the information signal (see page 219-220 where the descrambling of the scramble signal and decompression is being done in one step; and page 222, section 3 “related works” disclose that some of the information in the signal not needed to scramble and that is the idea of selective scramble or encryption and therefore the descrambling of the scramble signal yields to a part of signal initially scrambled and combination of the descramble part with the original signal yields to information signal). Also see pages 219-229 for more detail.

**As per claims 20-21** Lei Tang (Method for Encrypting and Decrypting MPEG Video Data Efficiently) teach a system according to claims 14, wherein the scrambled information signal is compressed and decompressed, wherein the regenerating means comprises means for equalizing the descrambling signal to compensate for compressing and decompressing of the original scrambling signal contained in the scrambled information signal; , wherein the equalizing means is adjustable by said controlling means, said controlling means being adapted to measure the impulse response of the compressing and decompressing operations and to adjust the equalizing means to provide a corresponding impulse response (see page 219, abstract where the method is based on jpeg and MPEG; section 1.1, introduction, line 1, second paragraph, section 2.1 and 2.2 and section 4.1).

**As per claim 28** Lei Tang (Method for Encrypting and Decrypting MPEG Video Data Efficiently) teach a system according to claim 12 for scrambling still images, wherein the image information is divided in blocks and each block is transformed to obtain a set of coefficient, wherein the analyzing means analyses the entropy distribution of the transformed image information and provides the scrambling control information, wherein the generating means generates noise in a two dimensional space and wherein the processing means provides a filtered noise signal as scrambling signal (see page 220-222, section 2.1 “discrete cosine transformation”).

Also see the entire reference with respect to the limitations of the above claims.

***Claim Rejections - 35 USC § 103***

2. **Claims 3-6, 13, 15-17, 19, 22-23 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lei Tang (Method for Encrypting and Decrypting MPEG Video Data Efficiently) recited in the IDS, paper number 4 by Applicant, in view of Rhoads (6,567,533 B1).

**As per claims 3-4, 13, 15, 19** Lei Tang (Method for Encrypting and Decrypting MPEG Video Data Efficiently) teach all limitation of the claim a system according to claims 2, 12 and 14, wherein said analyzing means provides scrambling control information but



Art Unit: 2132

do not disclose generating means generates a noise signal and comprises means for processing said noise signal as controlled by the scrambling control information to obtain the scrambling signal, wherein said scrambling control information is transferred to the descrambling system, wherein said regenerating means generates a noise signal and comprises means for processing said noise signal as controlled by the scrambling control information to obtain the descrambling signal; wherein the scrambling control information is transferred to the descrambling system as part of the information signal. However Rhoads (6,567, 533 B1) disclose generating means generates a noise signal (see fig.6, items 202 and 222; fig.7, item 206 and 242, fig.8 and fig.29) and comprises means for processing said noise signal as controlled by the scrambling control information to obtain the scrambling signal (see fig.7 where the noise source is processed as a code and encoded by item 202 to provide scrambling or encoding signal output), wherein said scrambling control information is transferred to the descrambling system, wherein said regenerating means generates a noise signal and comprises means for processing said noise signal as controlled by the scrambling control information to obtain the descrambling signal; wherein the scrambling control information is transferred to the descrambling system as part of the information signal (see col.17, lines 26-67 and col.18, lines 1-54 where different methods of decoding of a signal that has embedded noise signal is discussed in detailed). It would have been obvious to one of ordinary skilled in the art at the time the invention was made to utilize Rhoads 's noise signal generation in scrambling system of Lei Tang in order to trace

Art Unit: 2132

pirated knock-offs to the original from which they were made in addition to protect data streaming piracy data such as music and videotape recording.

**As per claims 5, 16** Lei Tang (Method for Encrypting and Decrypting MPEG Video Data Efficiently) teach all limitation of the claim of a system according to claims 3 and 15 but do not disclose a white noise generator and filtering means controlled by said scrambling control information to filter the white noise to obtain noise having an entropy distribution corresponding with the entropy distribution of the information signal. However Rhoads (6,567, 533 B1) disclose a white noise generator and filtering means controlled by said scrambling control information to filter the white noise to obtain noise having an entropy distribution corresponding with the entropy distribution of the information signal (see col.23, lines 45-67 and col.24, lines 1-38 where the regeneration of white noise and the filtering technique is detailed). It would have been obvious to one of ordinary skilled in the art at the time the invention was made to utilize Rhoads 's noise signal generation in scrambling system of Lei Tang in order to provide more absolute signal strength to the identification signal relative to the perceptibility of that signal.

**As per claims 6 and 17** Lei Tang (Method for Encrypting and Decrypting MPEG Video Data Efficiently) teach all limitation of the system according to claims 3 and 15, but do not disclose a narrow band noise signal generator and modulating means for modulating the narrow band noise signal controlled by said scrambling control information to obtain noise having an entropy distribution corresponding with the

Art Unit: 2132

entropy distribution of the information signal. However Rhoads (6,567, 533 B1) disclose a narrow band noise signal generator and modulating means for modulating the narrow band noise signal controlled by said scrambling control information to obtain noise having an entropy distribution corresponding with the entropy distribution of the information signal (see col.18, lines 36-67; col.19, lines 1-15). ). It would have been obvious to one of ordinary skilled in the art at the time the invention was made to utilize Rhoads 's noise signal generation in scrambling system of Lei Tang in order to trace pirated knock-offs to the original from which they were made in addition to protect data streaming piracy data such as music and videotape recording.

**As per claim 22** Lei Tang (Method for Encrypting and Decrypting MPEG Video Data Efficiently) teach all limitation of the claim of system according to claim 14, but do not disclose at least a part of the regenerating means, in particular the noise signal generator, is accommodated in a secure device, for example a smart card. However Rhoads (6,567, 533 B1) disclose at least a part of the regenerating means, in particular the noise signal generator, is accommodated in a secure device, for example a smart card (see claim 1 above and fig.24). It would have been obvious to one of ordinary skilled in the art at the time the invention was made to utilize Rhoads 's noise signal generation in a smart card in Lei Tang's method and system in order to trace pirated knock-offs to the original from which they were made in addition to protect data streaming piracy data such as music and videotape recording.

Art Unit: 2132

**As per claim 23** Lei Tang (Method for Encrypting and Decrypting MPEG Video Data Efficiently) teach all limitation of the claim of a system according to claim 22, but do not disclose the secure device is adapted to add a watermark signal to the descrambling signal. However Rhoads (6,567, 533 B1) disclose the secure device is adapted to add a watermark signal to the descrambling signal (see abstract where it state that the technology also could be used in watermarking). It would have been obvious to one of ordinary skilled in the art at the time the invention was made to utilize Rhoads 's noise signal generation in a smart card in Lei Tang's method and system in order to trace pirated knock-offs to the original from which they were made in addition to protect data streaming piracy data such as music and videotape recording.

**As per claim 24** Lei Tang (Method for Encrypting and Decrypting MPEG Video Data Efficiently) teach a system according to claim 22, wherein the secure device is adapted to add a compression hindering signal to the descrambling signal (see page 223-226).

**As per claim 25** Lei Tang (Method for Encrypting and Decrypting MPEG Video Data Efficiently) teach all limitation of the claim of the system according to claim 14, but do not disclose the scrambled information signal and the descrambling signal are digital signals, wherein means are provided for converting the scrambled signal and the descrambling signal into analog signals, wherein the combining means combine the analogue signals to obtain a clear analogue information signal. However Rhoads (6,567, 533 B1) disclose the scrambled information signal and the descrambling signal

Art Unit: 2132

are digital signals, wherein means are provided for converting the scrambled signal and the descrambling signal into analog signals, wherein the combining means combine the analogue signals to obtain a clear analogue information signal (see col.16, lines 27-61 where the system is capable of digital to analog conversion and vice versa). It would have been obvious to one of ordinary skilled in the art at the time the invention was made to utilize Rhoads 's noise signal generation in scrambling system of Lei Tang in order to trace pirated knock-offs to the original from which they were made in addition to protect data streaming piracy data such as music and videotape recording either in analog or digital format.

### ***Allowable Subject Matter***

Claims 7-11, 18, 26, 27 and 29-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### **Conclusion**

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

Art Unit: 2132


TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kambiz Zand whose telephone number is (703) 306-4169. The examiner can normally be reached on Monday-Thursday (8:00-5:00). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on (703) 305-1830. The fax phone numbers for the organization where this application or proceeding is assigned as (703) 872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197

(toll-free).

  
Kambiz Zand

06/01/04

  
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